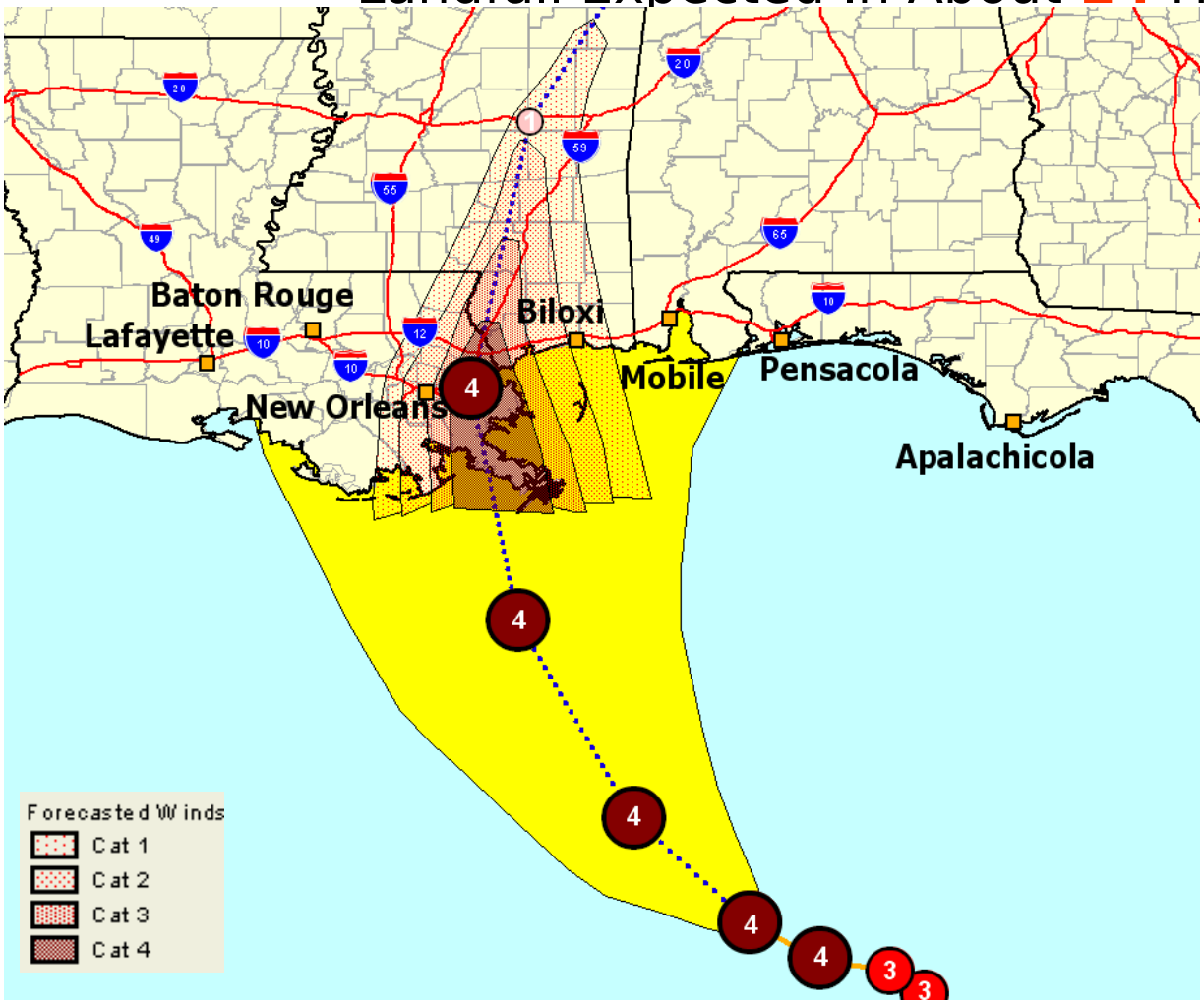
Hurricane Katrina Wind Distribution

Landfall Expected In About **24** Hours

For Official Use Only!



Most Probable Landfall Wind Distribution

This model is based on a Category 4 storm making landfall in near proximity to New Orleans, LA.

Information provided on this page displays a Category 4 storm making landfall near New Orleans, LA. These projections are based on information from the NHC ***(0500 EDT 08/28/2005)*** forecast.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Wind Fields

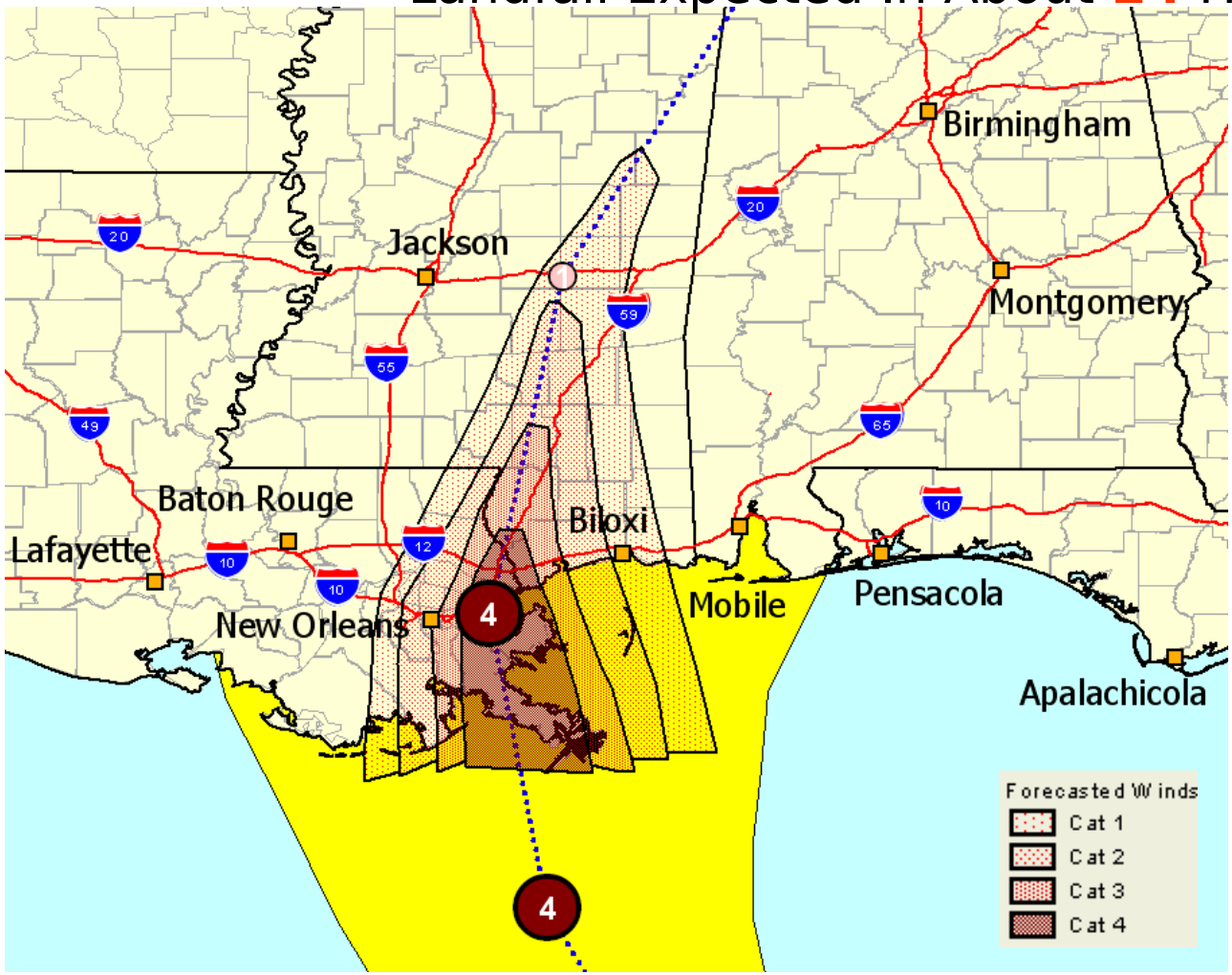
Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Wind Distribution

Landfall Expected In About **24** Hours

For Official Use Only!



Most Probable Landfall Wind Distribution

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US Army Corps of Engineers

Hurricane Katrina Wind Fields

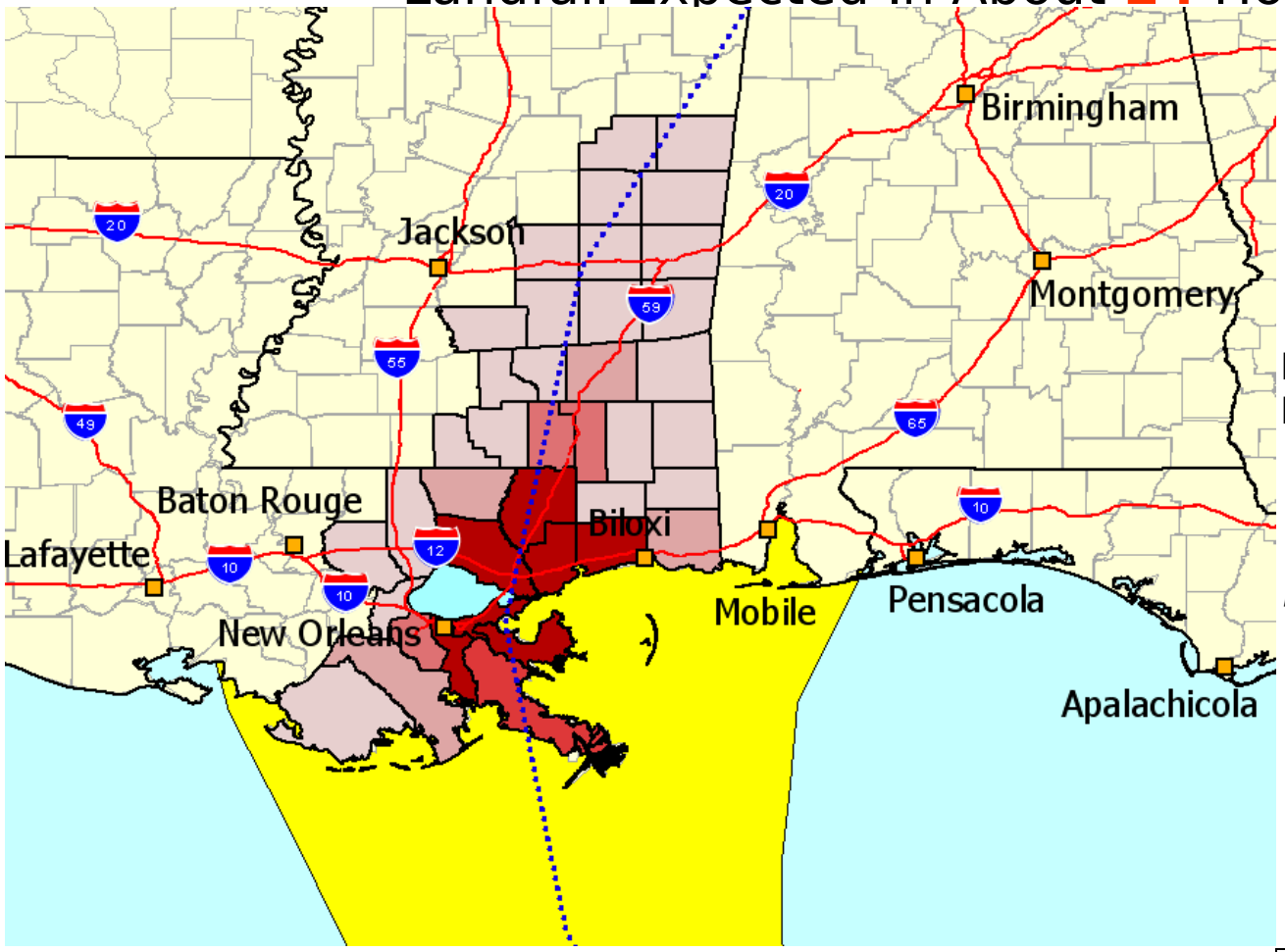
Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Debris Model

Landfall Expected In About **24** Hours

For Official Use Only!



Most Probable Landfall Debris Model Results

Louisiana – 31,176,000 yd^3
Mississippi – 5,961,000 yd^3

Model results per parish/county on following page

This model is based on a Category 4 storm making landfall in near proximity to New Orleans, LA.

Information provided on this page displays a Category 4 storm making landfall near New Orleans, LA. These projections are based on information from the NHC ***(0500 EDT 08/28/2005)*** forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Debris Model

Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Debris Model

Landfall Expected In About 24 Hours

For Official Use Only!

State	Cubic Yards	Parish/County	Cubic Yards
		Jefferson	8,011,000
		Lafourche	148,000
		Livingston	1,000
		Orleans	14,260,000
		Plaquemines	823,000
		St Bernard	3,511,000
		St Charles	255,000
		St John Baptist	54,000
		St Tammany	4,086,000
		Tangipahoa	19,000
		Terrebonne	8,000
Louisiana			31,176,000

State	Cubic Yards	Parish/County	Cubic Yards
		Clarke	2,000
		Covington	82,000
		Forrest	492,000
		George	8,000
		Greene	3,000
		Hancock	1,297,000
		Harrison	1,305,000
		Jackson	141,000
		Jasper	58,000
		Jeff'n Davis	10,000
		Jones	247,000
		Kemper	6,000
		Lamar	437,000
		Lauderdale	10,000
		Marion	68,000
		Neshoba	27,000
		Newton	35,000
		Noxubee	2,000
		Pearl River	1,565,000
		Perry	26,000
		Scott	6,000
		Simpson	1,000
		Smith	49,000
		Stone	70,000
		Walthall	6,000
		Wayne	4,000
		Winston	4,000
Mississippi	5,961,000		5,961,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Debris Model

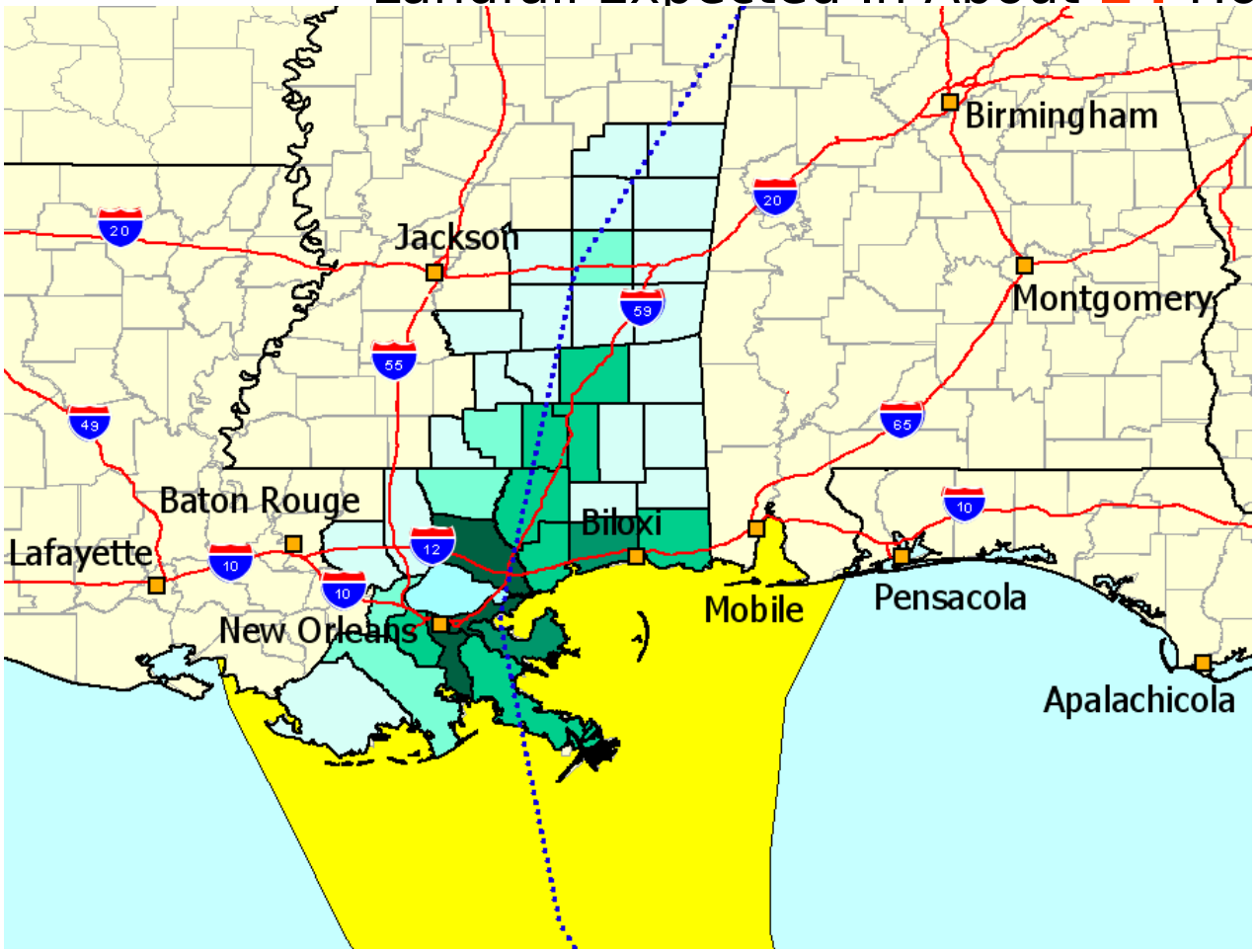
Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Ice Model

Landfall Expected In About **24** Hours

For Official Use Only!



Most Probable Landfall Ice Model Results

Louisiana –
26 Truckloads Day One
52 Truckloads Day Two
104 Truckloads Day Three

Mississippi –
14 Truckloads Day One
28 Truckloads Day Two
56 Truckloads Day Three

Model results per county on following page

This model is based on a Category 4 storm

Information provided on this page displays a Category 4 storm making landfall near New Orleans, LA. These projections are based on information from the NHC ***(0500 EDT 08/28/2005)*** forecast. The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per day per person) and Ice SME input and represents a first day daily need.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers	**Hurricane Katrina Ice Model**
Generated By: Terry Siemsen, LRL 0600 EDT 08/28/2005	
Sources: HURREVAC LRL-DEBRIS	Page 5 of 16

Hurricane Katrina Ice Model

Landfall Expected In About **24** Hours

For Official Use Only!

	Ice/Water Commodities - Trucks/Distribution Lanes Ramp-up (Number of Trucks Each Commodity and Lanes Anticipated - end of each day)					
				Commodity Trucks	Within Hurricane Force Winds	
	Day One (25%)*	Day Two (50%)*	Day Three (100%)*	Day 1-3 Total	Population	Households
NHC Forecast Track						
Louisiana	26	52	104	182	1,303,000	492,000
Mississippi	14	28	56	98	702,000	262,000
Total	**40**	**80**	**160**	**280**	**2,005,000**	**754,000**

Key assumption is that establishment of distribution lanes will be the limiting factor.

* Assumption is that States/locals (FL is the * exception) will have the capability to establish about 25% of needed distribution lanes in the first 24 hours post-landfall, about 50% of needed distribution lanes in the first 48 hours after landfall, and all needed lanes by 72 hours post landfall. Florida, due to past experience, estimates they can establish up to 50 distribution lanes per day.

** **Assumption for Katrina** - Assumption is that 40 percent of the resident population will require ice/water due to power outages in areas experiencing hurricane force winds

The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per person) and Ice SME input and represents a first day daily need. The assumption in this scenario is that 40% of the resident population affected by Katrina will have power outage in this area will cause a need for ice.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Ice Model

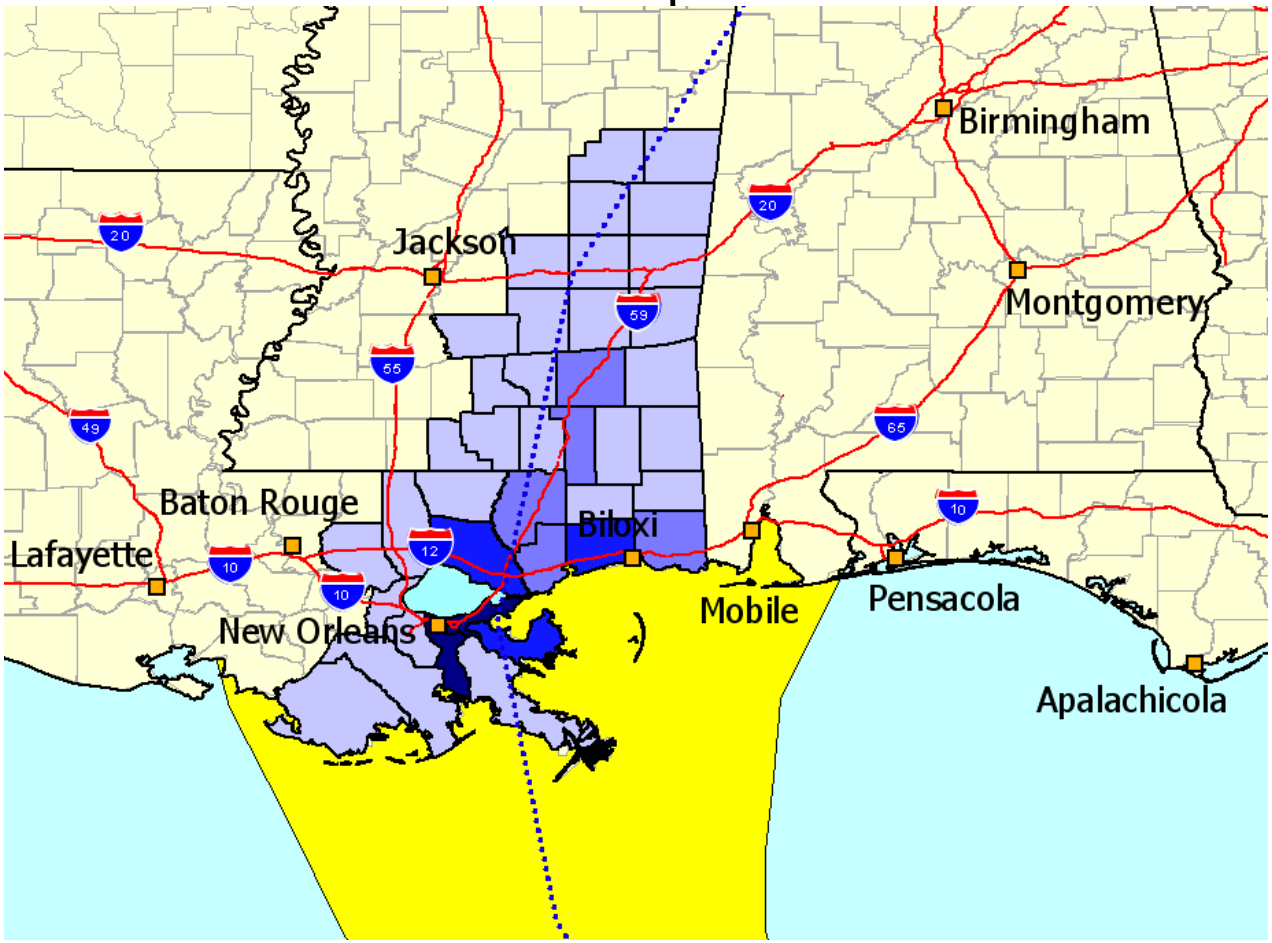
Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Water Model

Landfall Expected In About **24** Hours

For Official Use Only!



Most Probable Landfall Water Model Results

Louisiana –
26 Truckloads Day One
52 Truckloads Day Two
104 Truckloads Day Three

Mississippi –
14 Truckloads Day One
28 Truckloads Day Two
56 Truckloads Day Three

Model results per county on following page

This model is based on a Category 4 storm making landfall in near

Information provided on this page displays a Category 4 storm making landfall near New Orleans, LA. These projections are based on information from the NHC ***(0500 EDT 08/28/2005)*** forecast. The amount of water forecasted is based on Mission Guide Book requirements (3 liters per person per day) and Water SME input and represents a first day daily need.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Water Model

Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Water Model

Landfall Expected In About **24** Hours

For Official Use Only!

Ice/Water Commodities - Trucks/Distribution Lanes Ramp-up
(Number of Trucks Each Commodity and Lanes Anticipated - end of each day)

	Day One (25%)*	Day Two (50%)*	Day Three (100%)*	Commodity Trucks Day 1-3 Total	Within Hurricane Force Winds Population	Households
NHC Forecast Track						
Louisiana	26	52	104	182	1,303,000	492,000
Mississippi	14	28	56	98	702,000	262,000
Total	**40**	**80**	**160**	**280**	**2,005,000**	**754,000**

Key assumption is that establishment of distribution lanes will be the limiting factor.

* Assumption is that States/locals (FL is the * exception) will have the capability to establish about 25% of needed distribution lanes in the first 24 hours post-landfall, about 50% of needed distribution lanes in the first 48 hours after landfall, and all needed lanes by 72 hours post landfall. Florida, due to past experience, estimates they can establish up to 50 distribution lanes per day.

** **Assumption for Katrina** - Assumption is that 40 percent of the resident population will require ice/water due to power outages in areas experiencing hurricane force winds

The amount of water forecasted is based on Mission Guide Book requirements (3 liters per person) and Water SME input and represents a first day daily need. The assumption in this scenario is that 40% of the resident population affected by Katrina will have power outage in this area will cause a need for water.

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US Army Corps of Engineers

Hurricane Katrina Water Model

Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Population Model

Landfall Expected In About **24** Hours

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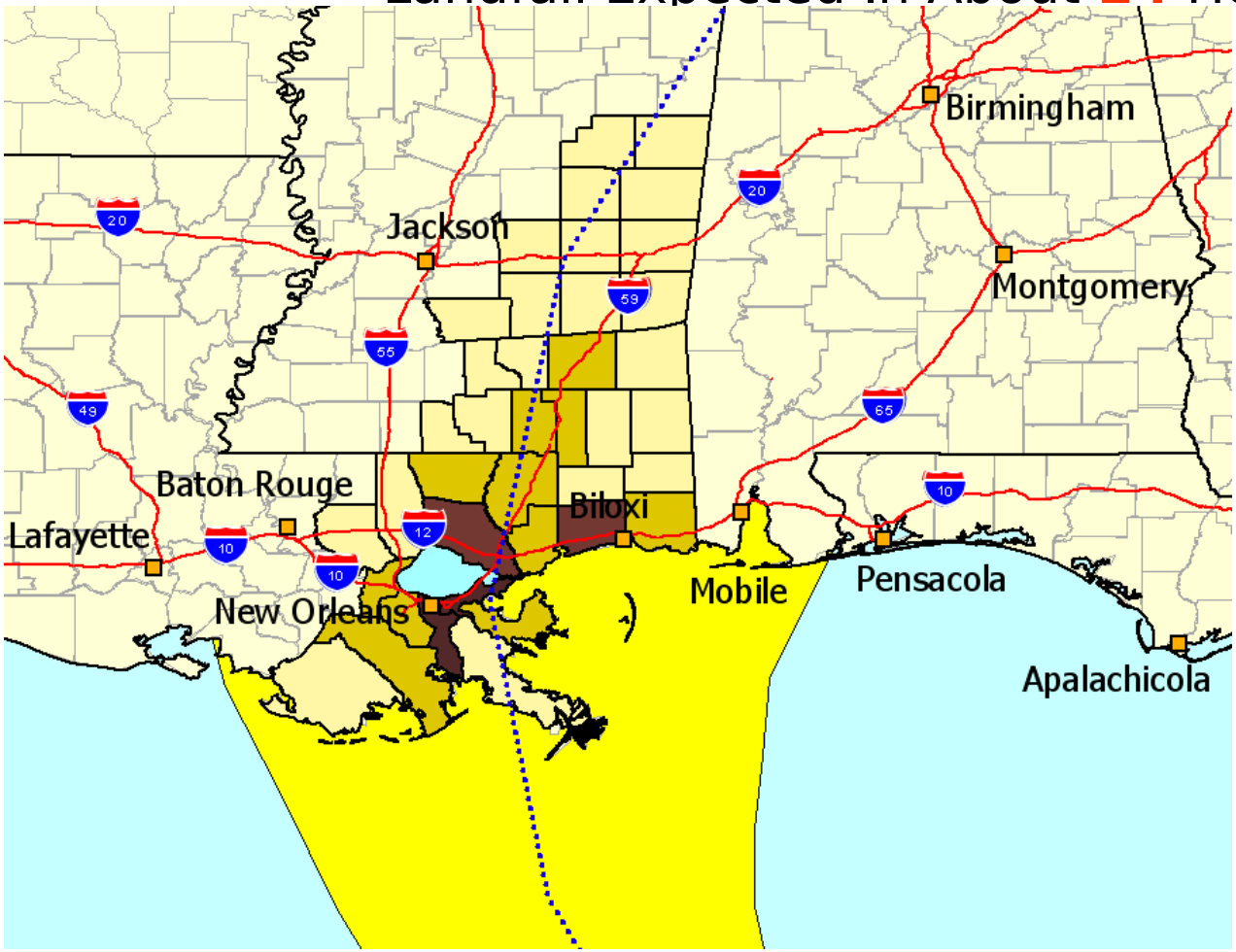


Most Probable Landfall Population Model Results

Louisiana – 1,303,000 persons
Mississippi – 702,000 persons

Model results per county on following page

This model is based on a Category 4 storm

Information provided on this page displays a Category 4 storm making landfall near New Orleans, LA. These projections are based on information from the NHC ***(0500 EDT 08/28/2005)*** forecast. The number of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values).

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers **Hurricane Katrina Population Model**

Generated By: Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources: HURREVAC LRL-DEBRIS

Hurricane Katrina Population Model

Landfall Expected In About **24** Hours

For Official Use Only!

State	Pop. per State	Parish/County	Pop. per Parish
		Jefferson	420,000
		Lafourche	29,000
		Livingston	1,000
		Orleans	460,000
		Plaquemines	21,000
		St Bernard	66,000
		St Charles	47,000
		St John Baptist	32,000
		St Tammany	175,000
		Tangipahoa	12,000
		Terrebonne	4,000
		Washington	37,000
Louisiana			1,303,000

State	Pop. per State	Parish/County	Pop. per County
		Clarke	1,000
		Covington	19,000
		Forrest	72,000
		George	5,000
		Greene	2,000
		Hancock	43,000
		Harrison	189,000
		Jackson	69,000
		Jasper	18,000
		Jeff'n Davis	5,000
		Jones	65,000
		Kemper	4,000
		Lamar	39,000
		Lauderdale	6,000
		Marion	23,000
		Neshoba	16,000
		Newton	22,000
		Noxubee	1,000
		Pearl River	49,000
		Perry	12,000
		Scott	4,000
		Simpson	1,000
		Smith	14,000
		Stone	14,000
		Walthall	3,000
		Wayne	3,000
		Winston	3,000
Mississippi			702,000

The number of persons estimated to be within hurricane force winds comes from Census 2000 values.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Population Model

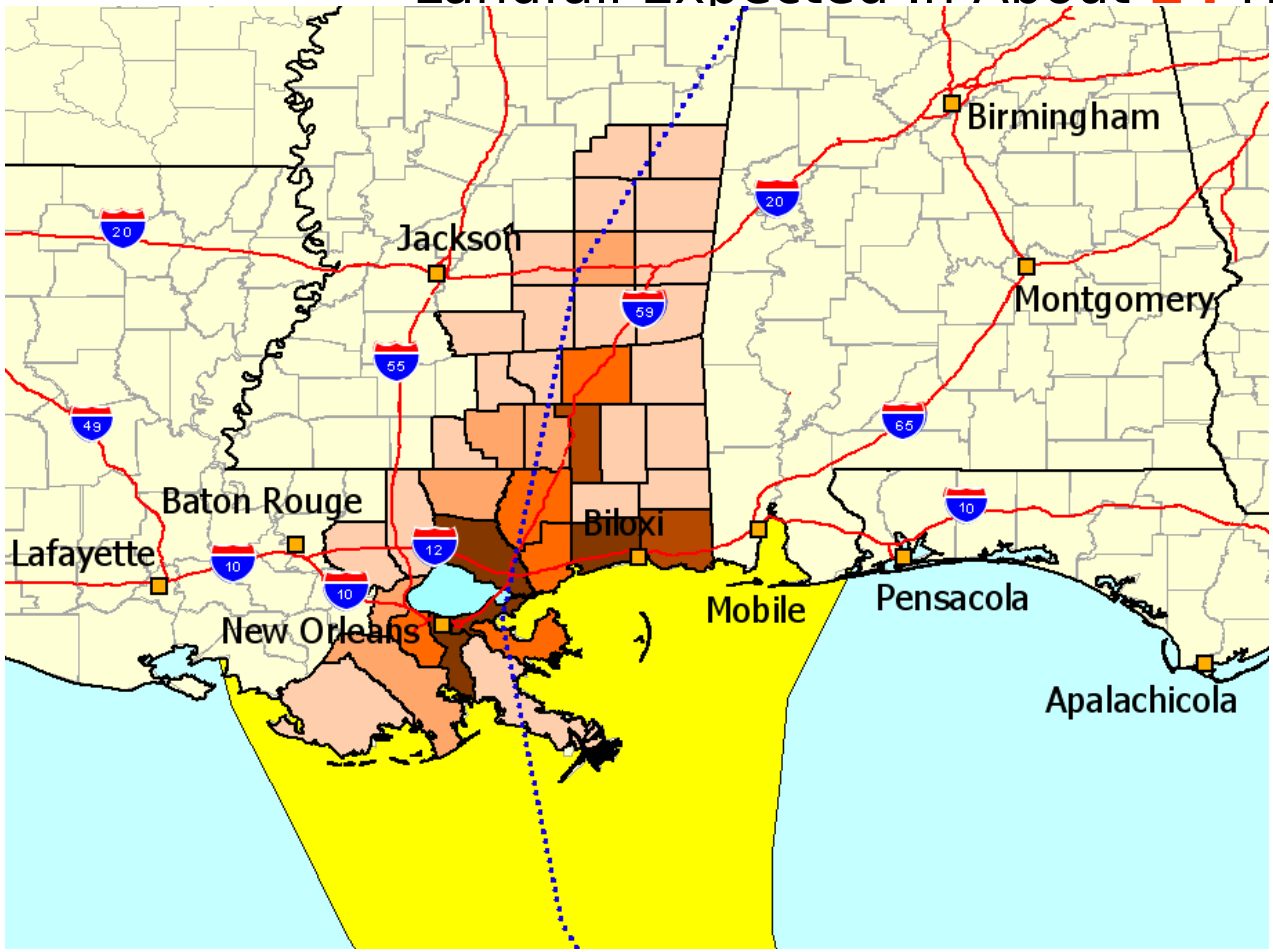
Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Households Model

Landfall Expected In About **24** Hours

For Official Use Only!



Most Probable Landfall Households Model Results

Louisiana - households
Mississippi - households

Model results per county on following page

This model is based on a Category 4 storm making landfall in near proximity to New Orleans, LA.

Information provided on this page displays a Category 4 storm making landfall near New Orleans, LA. These projections are based on information from the NHC ***(0500 EDT 08/28/2005)*** forecast. The number of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values).

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US Army Corps of Engineers

Hurricane Katrina Households Model

Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Households Model

Landfall Expected In About 24 Hours

For Official Use Only!

State	Parish	Households per Parish
	Jefferson	162,000
	Lafourche	10,000
	Livingston	1,000
	Orleans	178,000
	Plaquemines	7,000
	St Bernard	25,000
	St Charles	16,000
	St John Baptist	11,000
	St Tammany	63,000
	Tangipahoa	4,000
	Terrebonne	1,000
	Washington	14,000
Louisiana		492,000

State	County	Households per County
	Clarke	1,000
	Covington	7,000
	Forrest	27,000
	George	2,000
	Greene	1,000
	Hancock	17,000
	Harrison	71,000
	Jackson	25,000
	Jasper	7,000
	Jeff'n Davis	2,000
	Jones	24,000
	Kemper	1,000
	Lamar	14,000
	Lauderdale	2,000
	Marion	8,000
	Neshoba	6,000
	Newton	8,000
	Noxubee	1,000
	Pearl River	18,000
	Perry	4,000
	Scott	1,000
	Simpson	1,000
	Smith	5,000
	Stone	5,000
	Walthall	1,000
	Wayne	1,000
	Winston	1,000
Mississippi		261,000

The number of households estimated to be within hurricane force winds comes from Census 2000 values.

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Hurricane Katrina Temporary Roofing Model Results

For Official Use Only!

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Most Probable Landfall Temporary Roofing Model Results

Louisiana – 22,600
Mississippi – 7,800

Model results per county on following page

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US Army Corps of Engineers

Hurricane Katrina Roofing Model

Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Temporary Roofing Model Results

For Official Use Only!

Landfall Expected In Abc

State	Parish	Houseunits per Parish
	Jefferson	6,600
	Lafourche	200
	Livingston	100
	Orleans	9,300
	Plaquemines	500
	St Bernard	1,700
	St Charles	400
	St John Baptist	100
	St Tammany	3,100
	Tangipahoa	100
	Terrebonne	100
	Washington	400
Louisiana		22,600

State	County	Houseunits per County
	Clarke	100
	Covington	200
	Forrest	800
	George	100
	Greene	100
	Hancock	900
	Harrison	1,700
	Jackson	300
	Jasper	100
	Jeff'n Davis	100
	Jones	500
	Kemper	100
	Lamar	500
	Lauderdale	100
	Marion	100
	Neshoba	100
	Newton	100
	Noxubee	100
	Pearl River	1,000
	Perry	100
	Scott	100
	Simpson	100
	Smith	100
	Stone	100
	Walthall	100
	Wayne	100
	Winston	100
Mississippi		7,800

THIS IS AN EXPERIMENTAL MODEL !! THE VALUES ARE PRELIMINARY AND SHOULD BE CONSIDERED A GUIDE BUT NOT AN ABSOLUTE VALUE !!

The amount of temporary roofing that may be required is based on 1% of housing units damaged in CAT 1 wind areas, 3% of housing units damaged in CAT 2 wind areas, 5% of housing units damaged in CAT 3 wind areas, and 7% of housing units damaged in CAT 4 wind areas. This only indicates possible need – not necessarily a mission to repair roofs.

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US Army Corps of Engineers

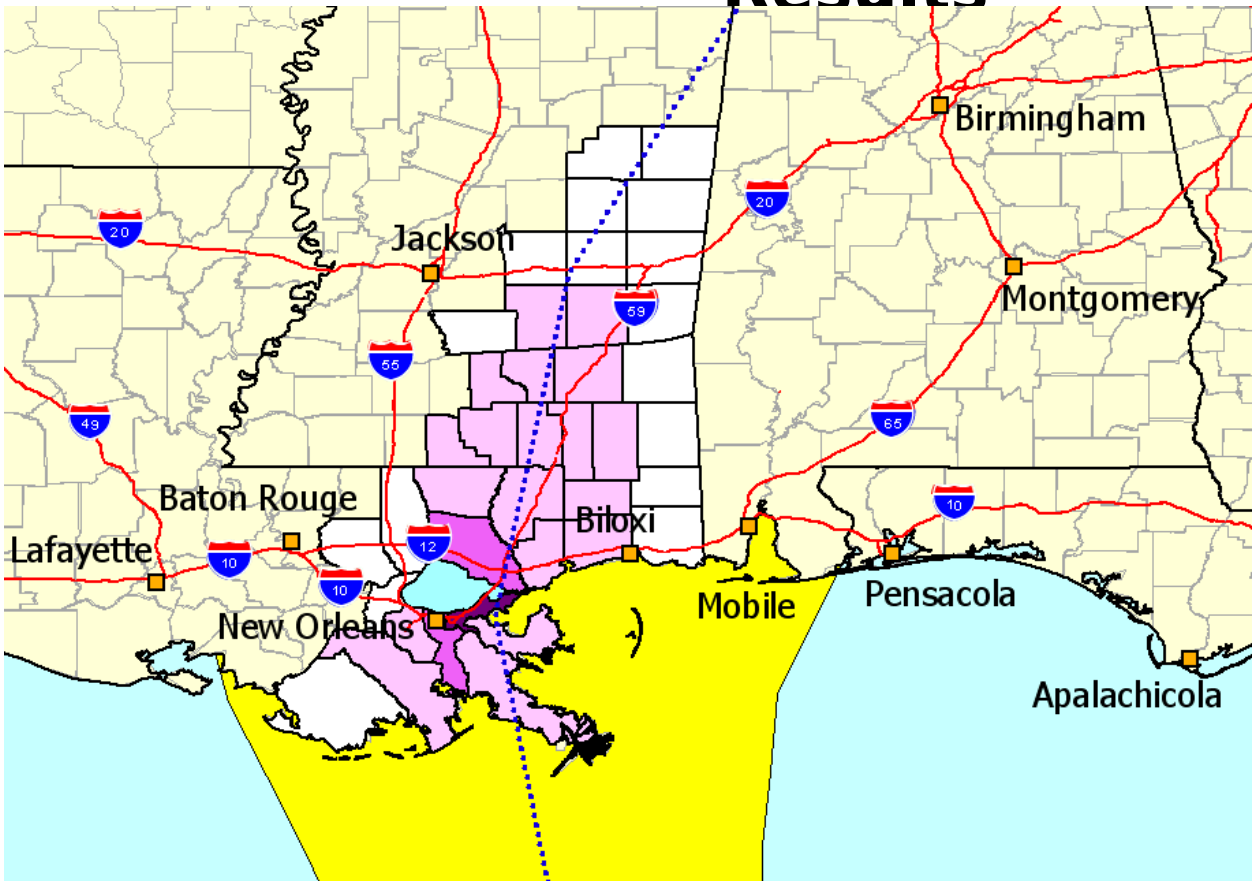
Hurricane Katrina Roofing Model

Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Temporary Housing Model Results

For Official Use Only!



ours

Most Probable Landfall Temporary Housing Model Results

Louisiana – 14,600
Mississippi – 4,600

Model results per county on following page

This model is based on a Category 4 storm making landfall in near proximity to New Orleans, LA.

Information provided on this page displays a Category 4 storm making landfall near New Orleans, LA. These projections are based on information from the NHC (***0500 EDT 08/28/2005***) forecast. The amount of temporary housing that may be required is based on no housing need in CAT 1 wind area, 1% of housing units requiring temporary replacement in CAT 2 wind areas, 3% of housing units requiring temporary replacement in CAT 3 wind areas, and 7% of housing units requiring temporary replacement in CAT 4 wind areas.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Katrina Housing Model

Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Katrina Temporary Housing Model Results

For Official Use Only!

Landfall Expected In

STATE	Parish	Houseunits per Parish
	Jefferson	3,400
	Lafourche	100
	Livingston	100
	Orleans	6,100
	Plaquemines	400
	St Bernard	1,600
	St Charles	100
	St John Baptist	100
	St Tammany	2,400
	Tangipahoa	100
	Terrebonne	100
	Washington	100
Louisiana		14,600

STATE	County	Houseunits per County
	Clarke	100
	Covington	100
	Forrest	300
	George	100
	Greene	100
	Hancock	600
	Harrison	500
	Jackson	100
	Jasper	100
	Jeff'n Davis	100
	Jones	100
	Kemper	100
	Lamar	200
	Lauderdale	100
	Marion	100
	Neshoba	100
	Newton	100
	Noxubee	100
	Pearl River	800
	Perry	100
	Scott	100
	Simpson	100
	Smith	100
	Stone	100
	Walthall	100
	Wayne	100
	Winston	100
Mississippi		4,600

THIS IS AN EXPERIMENTAL MODEL !! THE VALUES ARE PRELIMINARY AND SHOULD BE CONSIDERED A GUIDE BUT NOT AN ABSOLUTE VALUE !!

The amount of temporary housing that may be required is based on no housing need in CAT 1 wind areas, 1% of housing units requiring replacement in CAT 2 wind areas, 3% of housing units requiring replacement in CAT 3 wind areas, and 7% of housing units requiring replacement in CAT 4 wind areas.

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US Army Corps of Engineers

Hurricane Katrina Housing Model

Generated By:
Terry Siemsen, LRL 0600 EDT 08/28/2005

Sources:
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LRL-DEBRIS